

WHAT IS CLAIMED IS:

- 5 1. A shadow mask assembly comprising:
a shadow mask having an effective area with slots and a non-effective area
without slots in the periphery; and
a frame fixing body for tensioning said shadow mask;
wherein the shortest distance t_M from the outermost end of a main frame welded
to said shadow mask to the interface between the effective area and the non-effective
area and the width t_W of the mask welding part formed at the upper part of said main
10 frame have the relation of $0.14 \leq \frac{t_W}{t_M} \leq 1.0$.
- 15 2. A shadow mask assembly according to claim 1, wherein said shadow
mask is welded to the outermost end of said main frame in the effective area side
direction within the range of $t_W/2$ to t_W which is the shortest distance between the
effective area and the non-effective area of said shadow mask.
3. A shadow mask assembly according to claim 1, wherein said main
frame and said shadow mask are weld in the range of $0.30 \leq \frac{t_M}{t_W} \leq 0.99$.
- 20 4. A shadow mask assembly according to claim 3, wherein said main
frame has the upper part as the welding part width t_W and one side inwardly sloped
about said shadow mask so that the side cross section has the upper and lower surfaces
being parallel with each other.
- 25 5. A shadow mask assembly according to claim 3, wherein said main

frame is made of a plate, in which the upper part is bent to have the mask welding width t_w and the lower part is perpendicular to the upper part and has one end bent parallel with the mask welding width and the other end bent again to closely contact with the perpendicular part to form a slope inward to said shadow mask.

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6. A shadow mask assembly comprising:

a rail as a frame fixed with frit glass along each rear side of a panel; and

a shadow mask welded and tensioned at the rear surface of said rail;

10 wherein the rear surface of said rail is defined by a welding width t_w in the range of $0.14 \leq \frac{t_w}{t_M} \leq 1.0$,

wherein t_M is the shortest distance from the outermost end of said rail to the interface between an effective area and a non-effective area of said shadow mask.

15 7. A shadow mask assembly according to claim 6, wherein said shadow mask is welded to the rear of said rail in the range of $t_w/2$ to t_w .

8. A shadow mask assembly according to claim 6, wherein said rail and said shadow mask are weld in the range of $0.30 \leq \frac{t_M}{t_w} \leq 0.99$.

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